

# **SOLAR ENERGY DESALINATION SYSTEM**

## **ABSTRACT OF THE DISCLOSURE**

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A desalination system is driven by a solar powered boiler that outputs a pressurized vapor to drive an expander that generates output motive force. A pump is responsive to the motive force to output pressurized saline water. A reverse osmosis unit receives the pressurized saline water to output fresh water and pressurized brine. A recuperator that  
10 transfers heat from the expander exhaust to the boiler feed liquid is incorporated to improve the efficiency of the system. In a particular embodiment, a hydraulic motor receives the pressurized brine and outputs an augmenting motive force to the pump. In another embodiment, a novel motorless boiler feed pump is defined.